

WHAT IS CLAIMED IS:

1. A metal-over-metal (MOM) device having at least one device cell on a first layer, each cell comprising:
 - a frame piece; and
 - a center piece surrounded by the frame piece having a cross-shape center portion defining four quadrants of space between the frame and center pieces;
 - wherein the center piece has one or more center fingers each extending from at least one of the four ends thereof within a quadrant;
 - wherein the frame piece has one or more frame fingers extending therefrom and each being in at least one quadrant and not being overlapped with the center finger in the same quadrant.
2. The device of claim 1 wherein a first set of two center fingers being parallel to each other and extending towards a first and second opposite directions.
3. The device of claim 2 wherein a second set of two extended center fingers being parallel to each other and extending towards a third and fourth opposite directions
4. The device of claim 3 wherein the frame finger is parallel with the center finger in the same quadrant.
5. The device of claim 4 wherein the first and second sets of the center fingers are perpendicular to each other.

6. The device of claim 4 wherein the center finger is perpendicular to a first portion of the cross shape center piece that it extends from.

7. The device of claim 4 wherein the frame finger is situated on an inner side of the center finger so that it is closer to the center of the center piece.

8. The device of claim 1 further comprising one or more connection points on the center and frame fingers of the device cell on the first layer connecting to at least one MOM device cell on a second layer vertically aligned therewith, wherein the center finger on the first layer connects to a frame finger of the MOM device cell on the second layer, and the frame finger on the first layer connects to a center finger of the MOM device cell on the second layer.

9. The device of claim 1 wherein at least one side of the frame piece is connected to an external connection point.

10. The device of claim 1 wherein the frame piece is at a first voltage level and the center piece is at a second voltage level.

11. A multilevel metal-over-metal (MOM) device group having one or more MOM devices on a first layer connected to one or more MOM devices on a second layer, each of the MOM devices comprising:

a frame piece; and

a center piece surrounded by the frame piece having a cross-shape center portion defining four quadrants of space between the frame and center pieces,

the center portion having a horizontal component and a vertical component;

wherein the center piece has four center fingers each extending from one of the four ends thereof and being parallel to either the horizontal or the vertical component of the center portion, and wherein each quadrant has only one such center finger;

wherein the frame piece has four frame fingers each extending from one side thereof, each being in one quadrant and being parallel with the center finger in the same quadrant.

12. The device group of claim 11 further comprising one or more connection points on the center and the frame fingers for connecting each device on the first layer to at least one device on the second layer.

13. The device group of claim 11 wherein a center finger extending from an end of the center portion of a first device on the first layer is in a different quadrant than the quadrant in which a center finger extending from a same end of center portion of a second device on the second layer connected with the first device.

14. The device group of claim 13 wherein the center finger of the first device and the center finger of the second device extend in opposite directions.

15. The device group of claim 13 wherein the frame piece of the first device and the center piece of the second device are on a first voltage level.

16. The device group of claim 15 wherein the center piece of the first

device and the frame piece of the second device are on a second voltage level.

17. The device group of claim 13 wherein the frame finger is closer to the center of the cross-shape center portion than the center finger in the same quadrant .

18. The device group of claim 12 wherein the frame fingers of the devices on the first layer connect to the center fingers of the devices vertically aligned therewith on the second layer through the connection points.

19. The device group of claim 12 wherein the center fingers of the devices on the first layer connect to the frame fingers of the devices vertically aligned therewith on the second layer through the connection points.

20. A method for manufacturing a multilevel metal-over-metal (MOM) device group, the method comprising:

forming one or more MOM devices on a first layer;

forming one or more MOM devices on a second layer that are vertically aligned with the MOM devices on the first layer;

connecting the MOM devices on the first and second layers so that portions of the devices on both layers having a same voltage level are connected together;

wherein each device having:

a frame piece; and

a center piece surrounded by the frame piece having a cross-shape center portion defining four quadrants of space between the frame and center

pieces, the center portion having a horizontal component and a vertical component;

wherein the center piece has four center fingers each extending from one of the four ends thereof and being parallel to either the horizontal or the vertical component of the center portion, and wherein each quadrant has only one such center finger;

wherein the frame piece has four frame fingers each extending from one side thereof, each being in one quadrant and being parallel with the center finger in the same quadrant.